Patent Search Results

10/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Game i.e. puzzle game, controlling medium, has set of instructions for determining whether attributes of objects intersect line of sight or straight line parallel to line of sight, and deleting objects satisfying preset condition
Patent Assignee: NINTENDO CO LTD (NINT)
Inventor: ETO K; FUJITA Y

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20080102951	A1	20080501	US 2007714101	A	20070306	200832	B
JP 2008113762	A	20080522	JP 2006298201	A	20061101	200835	E

Abstract:
A player's touch of a desired object will set the 3-dimensional position of the said object to the gaze point of an imaginary|**virtual camera**.Continuously, if a player **moves** a touch position, the position of an imaginary|virtual camera (viewpoint) will be changed according to it.In virtual space, a different layer for every... ... arrangement|positioning of the object in 3-dimensional virtual space.A new puzzle game which advances a game can be played by dissolve|disengaging the **relationship** between the eyes|visual... ... reticular pattern. By a player touching a desired object, a three-dimensional location of the object is set as a point of gaze of a **virtual camera**. Then, by the **player** moving a touch **location**, the location of the **virtual camera** (**viewpoint**) is changed according to the movement. In a virtual space, different layers are provided for the different types of objects. The objects are disposed so...

10/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Game apparatus, has controller to obtain input information input via another controller by player to move player in game space, and CPU to generate game image based on updated location of player and location of virtual camera
Patent Assignee: NINTENDO CO LTD (NINT)
Inventor: NISHIMURA K

Patent Family (2 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040224761	A1	20041111	US 2004803881	A	20040319	200501	B
JP 2004329463	A	20041125	JP 2003127759	A	20030506	200501	E

Abstract:
on a monitor connected to the game apparatus. A character location of a player character is used as a target location, for example, and the **virtual camera** is **moved** in such a manner that a location of a **point**-of-**regard** (**point**-of-**regard** location) of the virtual camera is brought close to this **target location** at a predetermined **ratio**. That is, the **virtual camera follows** the player character from behind after some delay. ...

Claims:
a distance from said target location to a reference location determined in a predetermined manner toward the location of said virtual camera at a predetermined **ratio** is shortened irrespective of whether or not said player character has moved; and a game-image generating means for generating the game image based on...

10/3,K/3 (Item 3 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Image processing method for computer games, involves generating and displaying image of object captured from several viewpoints of virtual camera, by passing through screen displaying three-dimensional model

Patent Assignee: HARA F (HARA-I); SEGA CORP (SEGA); SEGA ENTERPRISES KK (SEGA)
Inventor: HARA F

Patent Family (4 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 2003337957	A	20031128	JP 2002146583	A	20020521	200404	B
US 20040021680	A1	20040205	US 2003445277	A	20030801	200411	E
US 7277571	B2	20071002	US 2003445277	A	20030520	200765	E
JP 4096622	B2	20080604	JP 2002146583	A	20020521	200839	E

Abstract:
NOVELTY - The three-dimensional model provided between viewpoints of **virtual camera** (2) and **moving** object (1), is displayed in virtual three-dimensional space of ball shaped screen (5) of display unit. A predetermined moving image with preset polarity, is... ... DESCRIPTION OF DRAWINGS - The figure shows a model explaining the positional **relationship** of the screen for effects and player character, and the **relationship** between the direction of a virtual camera and the direction of the screen...

Claims:
photographed-object object in the inside of the said imaginary|virtual three dimensional space, or the scene of a game so that the said imaginary|**virtual camera moves** the circumference|surroundings of the said imaging object with the said screen for effects,The step which carries out the synthetic|combination processing of this... ... virtual three-dimensional space;providing a spherical object at a position, the spherical object consisting of a three-dimensional model including the viewpoint of said **virtual camera** and applying a texture image of said **moving** objects on said spherical object functioning as a screen on which an effective image is applied;moving said texture image to a predetermined direction on... ... texture image to said effect image by converting a three-dimensional coordinate of said texture image to a two-dimensional coordinate in the visual field **area** on said spherical **object** viewed from the **viewpoint** of said **virtual camera**; and performing a **moving** process of the position of said spherical object according to movement of said virtual camera wherein the predetermined direction of said spherical object is invariable...

16/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Video game apparatus e.g. for gun-shooting game moves simulated camera viewpoint according to change in direction and position of detected player's marked region in image of play area

Patent Assignee: KONAMI CO LTD (KONA); KONAMI KK (KONA)
Inventor: DOMAN H; DOMITSU H; OISHI T; OKUBO T; YAMANO T

Patent Family (5 patents, 32 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20030017872	A1	20030123	US 2002197514	A	20020717	200333	B
EP 1279425	A2	20030129	EP 200216211	A	20020718	200333	E
JP 2003030686	A	20030131	JP 2001220312	A	20010719	200333	E
JP 3611807	B2	20050119	JP 2001220312	A	20010719	200507	E
US 6890262	B2	20050510	US 2002197514	A	20020717	200532	E

Abstract:
NOVELTY - A camera (42) captures an image of the play area. A detector detects two-dimensional movement of detected position of a **player**'s marked region in the captured image. A change processor **moves** a **simulated camera viewpoint** according to the change in direction and the detected output... ... A 3-dimensional video game apparatus comprises display **40** for displaying an image; image-processing means **16** for creating a 3-dimensional image from the **viewpoint** of a **simulated camera** and displaying that image on a display screen; and game controller **14** which conducts the game in response to reactions of the **player**, responsive to images displayed on display **40.** The game apparatus further comprises camera unit **42** which can be arranged in such an orientation that its... ... of the display screen, and which periodically captures images of the play area in the state thus arranged; a position recognizing part which detects the **player**'s head from the captured image, and detects the two-dimensional movement of the detected head position; and **viewpoint** change processor which **moves** the **viewpoint** of said **simulated camera** in conjunction with the change direction and change amount of the position of the detected marked region... ...

Claims:
In a video game apparatus including a display having a screen for displaying images, display control means for creating game images as seen from a **simulated camera viewpoint** and displaying said images on the screen of said display; and a game control part for conducting the game in response to reactions of a **player** responsive to the images displayed on said display; said video game apparatus comprising:image capture means which can be arranged in such an orientation that... ... periodically captures an image of the play area in the state arranged;position detecting means for detecting from the captured images a position of a **player**'s marked region;movement detecting means for detecting two-dimensional movement of said position of the marked region detected by said position detecting means; and**viewpoint** changing means for **moving** the **simulated camera viewpoint**, in accordance with the change direction and change amount of the position of the detected marked region... ... the second buffer;movement detecting means for detecting two-dimensional movement of said position of the reference region detected by said position detecting means; and**viewpoint** changing means for **moving** the simulated camera **viewpoint** to a new **viewpoint** in accordance with a change direction and change amount of the position of the detected reference region and displaying on the screen a view from... Basic Derwent Week: **200333**

Video game system for Internet, changes the view point positions in virtual three-dimensional space based on object condition and accordingly images are displayed
Patent Assignee: KCE JAPAN KK (KCEN-N); KITAO T (KITA-I); KONAMI COMPUTER ENTERTAINMENT OSAKA KK (KONA); KONAMI DIGITAL ENTERTAINMENT KK (KONA)
Inventor: KITAO T

Patent Family (7 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1136107	A2	20010926	EP 2001302725	A	20010323	200229	B
JP 2001269482	A	20011002	JP 200088606	A	20000324	200229	E
US 20010024972	A1	20010927	US 2001815571	A	20010323	200229	E
US 6835136	B2	20041228	US 2001815571	A	20010323	200502	E
US 20050049047	A1	20050303	US 2001815571	A	20010323	200517	E
			US 2004965295	A	20041014		
EP 1136107	B1	20080827	EP 2001302725	A	20010323	200858	E
DE 60135515	E	20081009	DE 60135515	A	20010323	200868	E
			EP 2001302725	A	20010323		

Abstract:
system, the position of own character moving in accordance with the player's operation in the three-dimensional space is calculated (step S1), the first **view point** position facing the observation point with **following** after backward of the own **character** is also calculated (step S2). If there is an opponent character (step S3: yes) and own **character** and the opponent **character** approaches each other within a predetermined distance (step S3: yes), the second **view point** position facing an observation point around midst of both **characters** is calculated (step S4). Then, the **virtual camera** is set at one of two **view point** position (step S5). If it is required to change the **view point** position (step S6: yes), the camera is **moved** smoothly along the virtual line connecting two **view point** positions (step S7), lastly, the image processing of the game picture is performed (step S8... ...

Claims:
view point position in accordance with a state of said object, and displaying the visual field image on the game screen viewing said object from **view point** positions **moving** from one position to another when the **view point** position is switched... ... is a rearward and slightly inclined position toward the moving direction of said object to view an observation point (P) set forward of said object **moving** in the **moving** direction, and a second **view point** position (P2); anda switch control device (17) for switching between the first view point position and the second view point position when the object reaches a predetermined position, the switch control device **moving** first and second **view point** positions on a line (L) between them when they are switched, and while switching between the first and second **view point** positions, displaying the visual field image from **moving view point** positions on the line between the first and second view point positions, the game system **characterised in that**:the second view point position is such... view point position in accordance with a state of said object, and displaying the visual field image on the game screen viewing said object from **view point** positions **moving** from one position to another when the **view point** position is switched... ... 1. A game system displaying an image on a game screen captured from a predetermined **view point** position with a **virtual camera** wherein a first object operated by a **player** and a second object having a relation with the first object move in a virtual three-dimensional space;the game system comprising:a **view point** position setting device for setting a first **view point** position to view a predetermined observation point **following** said **moving** first object and for setting a second **view point** position viewed based on an observation point settled between both objects when said first object has a relation to said second object;a distance judging... ... which is a back and slightly inclined position toward the moving don of said object to view an observation point set forward of said object **moving** to the **moving** direction, and a second **view point** position **0** a side of said object relative to the moving direction and from which the observation point is viewed fixed regardless of the movement... ... between the first view point position and the second viewpoint position when said object reaches a predetermined position, the switch control device being arranged to **move** between the first and second **view point** positions on a line between them when they are switched, and while switching been the first and second **view point** positions, displaying the view field image from **moving view point** positions on the line between the first and second view point positions.Basic Derwent Week: **200229**

16/3,K/5 (Item 5 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Image generation apparatus for video games - displays ball and auto character in overlapping and non- overlapping conditions based on distance between them
Patent Assignee: NAMCO LTD (NAMC-N)
Inventor: SADA H; SATA H

Patent Family (3 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 11007543	A	19990112	JP 1997173155	A	19970613	199912	B
JP 3145059	B2	20010312	JP 1997173155	A	19970613	200116	E
US 6323895	B1	20011127	US 199895151	A	19980610	200175	E

Abstract:
NOVELTY - The moving of auto-**character** (30) is tracked by a **virtual camera** (20). When the distance (D) between the auto- **character** and the ball (40) is greater, the **view point** (50) of the **virtual camera** viewing direction (52) are changed so that the auto-**character** and the ball does not overlap. When the distance between the ball and the auto-**character** is small, the ball and the auto-character are displayed in overlapped condition... ...The image suitable for game play is generated. DESCRIPTION OF DRAWING(S) - The figure shows diagram explaining the situation of overlapping of ball and auto- **character**. (20) **Virtual camera**; (30) Auto- **character**; (40) Ball; (50) **View point**; (52) Viewing direction... ...An image generating system and information storage medium which can generate an image preferable for the game play while causing a **virtual camera** to follow a displayed object. While the **virtual camera follows** a playerprimes game **character**, the **viewpoint** and line-of-sight direction of the **virtual camera** are changed so that the playerprimes game **character** and ball can be displayed without hiding each other even if the distance D between the playerprimes game **character** and the ball is changed. Depending on the distance D, the **viewpoint**, twist angle and **pan** angle of the **virtual camera** are changed. If the distance D is smaller than a given value Dth, the ball is displayed so that it can be seen through an... Basic Derwent Week: **199912**

16/3,K/6 (Item 6 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Three dimensional video game apparatus for use with personal computer, performs perspective transformation of 3-D display space, based on position of virtual camera selected based on evaluation of temporary view points
Patent Assignee: ENIX CORP (ENIX-N); SQUARE ENIX CO LTD (SQUA-N); SQUARE ENIX KK T/A SQUARE ENIX CO LTD (SQUA-N)
Inventor: KOBAYASHI K

Patent Family (7 patents, 33 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1454663	A1	20040908	EP 20042571	A	20040205	200464	B
JP 2004267247	A	20040930	JP 200358136	A	20030305	200464	E
US 20040176164	A1	20040909	US 2004759133	A	20040120	200464	E
JP 3696216	B2	20050914	JP 200358136	A	20030305	200560	E
EP 1454663	B1	20070103	EP 20042571	A	20040205	200703	E
DE 602004003979	E	20070215	DE 062004003979	A	20040205	200724	E
			EP 20042571	A	20040205		
DE 602004003979	T2	20070830	DE 062004003979	A	20040205	200758	E
			EP 20042571	A	20040205		

Abstract:
NOVELTY - An evaluator evaluates the position of each temporary **view** point set on the straight lines connecting temporary **view** points to central position of **characters** (201-206) **moving** in virtual 3-dimensional space of display (122), based on the distance between the **view point** and central position. A perspective transformer transforms display space, according to a **view point** selected as **virtual camera view point** based on evaluation... ... distance evaluation, an angle evaluation, an overlap evaluation, and a height difference evaluation. The top scoring temporary viewpoint positions are selected as positions where the **viewpoint** of a virtual camera should be **moved.**

Claims:
A three-dimensional video game apparatus that perspective-transforms a virtual three-dimensional space where multiple characters exist onto a virtual screen based upon a virtual camera having a viewpoint position moved in response to positions of the multiple characters, comprising:a character mover that moves at least one of the characters in the virtual three-dimensional space;a central position calculator that calculates a central position of the characters in the virtual three-dimensional space;a... ... a viewpoint position evaluator that evaluates each temporary viewpoint position based on each calculated distance;a viewpoint position selector that selects a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result;a viewpoint position mover that moves the viewpoint position of the virtual camera to the selected position; anda perspective transformer that perspective-transforms the three-dimensional space onto the virtual screen based upon the virtual camera where the viewpoint position is moved.... ... What is claimed is:1. A three-dimensional video game apparatus that perspective-transforms a virtual three-dimensional space where multiple characters exist onto a virtual screen based upon a virtual camera having a viewpoint position moved in response to positions of the multiple characters, comprising:a character mover that moves at least one of the characters in the virtual three-dimensional space;a central position calculator that calculates a central position of the characters in the virtual three-dimensional space;a... ... a viewpoint position evaluator that evaluates each temporary viewpoint position based on each calculated distance;a viewpoint position selector that selects a position where the viewpoint of the virtual camera should be moved among the temporary viewpoint positions based on the evaluation result;a viewpoint position mover that moves the viewpoint position of the virtual camera to the selected position; anda perspective transformer that perspective-transforms the three-dimensional space onto the virtual screen based upon the virtual camera where the viewpoint position is moved.>

16/3,K/7 (Item 7 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Game program controls movement of virtual camera to object viewpoint position, when computed range of player and enemy characters are below predetermined value
Patent Assignee: KCE JAPAN KK (KCEN-N)
Inventor: KITAO T

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 2003305275	A	20031028	JP 2002114532	A	20020417	200379	B

Abstract:
NOVELTY - The ranges of the **player** and enemy **characters** are computed using **character** group of vicinity. The position of **virtual camera** is controlled to **move** to the object **viewpoint** position, when computed ranges are below a predetermined value. Basic Derwent Week: **200379**

16/3,K/8 (Item 8 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Video game apparatus that moves character in virtual three-dimensional space and performs perspective transformation on character from viewpoint of virtual camera onto virtual screen
Patent Assignee: ENIX CORP (ENIX-N); SQUARE CO LTD (SQUA-N); SQUARE ENIX KK (SQUA-N); SQUARE KK (SQUA-N); SQUARE ENIX KK T/A SQUARE ENIX CO LTD (SQUA-N)
Inventor: MIYAGAWA Y; OHNO K; ONO K

Patent Family (7 patents, 32 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1312400	A2	20030521	EP 200225563	A	20021114	200346	B
JP 2003150980	A	20030523	JP 2001350484	A	20011115	200346	E
US 20030096648	A1	20030522	US 2002293360	A	20021114	200346	E
JP 3816375	B2	20060830	JP 2001350484	A	20011115	200657	E
US 7170508	B2	20070130	US 2002293360	A	20021114	200710	E
EP 1312400	B1	20080813	EP 200225563	A	20021114	200856	E
DE 60228187	E	20080925	DE 60228187	A	20021114	200864	E
			EP 200225563	A	20021114		

Abstract:
NOVELTY - A distance between a position in the virtual three-dimensional space of the **character** and a position of the **viewpoint** of the **virtual camera** is calculated. A far distance determining section determines whether or not the distance calculated by the distance calculator is longer than a predetermined critical far... DESCRIPTION - The video game apparatus moves a **character** in a virtual three-dimensional space and performs perspective transformation on the **character** from a **viewpoint** of a **virtual camera** onto a virtual screen. The video game apparatus includes a distance calculator, which calculates a distance between a position in the virtual three-dimensional space of the **character** and a position of the **viewpoint** of the **virtual camera**. A far distance determining section determines whether or not the distance calculated by the distance calculator is longer than a predetermined critical far distance. A **viewpoint** mover **moves** the position of the **view point** closer to the **character** when the far distance determining section determines that the distance is longer than the critical far distance... When a player instructs a movement of a player character from an input device, a control section obtains a position of the **player character** during a current frame period. The control section obtains a distance between the position of the **player character** during the current period and a position of a **view point** of a **virtual camera** during a previous frame period. If the obtained distance is less than a predetermined critical near distance, the control section **moves** the position of the **view point** away from the **player character**. If the obtained distance

exceeds a critical far distance, the control section **moves** the position of the **view point** towards the player character. If the obtained distance is in the range between the critical near distance and the critical far distance, the control section does not **move** the position of the **view point**. ... ... As explained above, according to this invention, a motion of the character which moves in imaginary|virtual three-dimensional space from the image of the **character** displayed on a screen can be effectively recognized to a **player** by see-through|perspective transformation|conversion being carried out from the **viewpoint** of an imaginary|**virtual camera**. ... ...

Claims:
A video game apparatus, which moves a character in a virtual three-dimensional space and performs perspective transformation on the character from a view point of a virtual camera onto a virtual screen, comprising: a distance calculator that calculates a distance between a position in the virtual three-dimensional space of the character and a position of the view point of the virtual camera; a far distance determining section that determines whether the distance calculated by said distance calculator is longer than a predetermined critical far distance; a view point mover that moves the position of the view point closer to the character when said far distance determining section determines that the calculated distance is longer than the critical far distance; and a perspective transformation system that performs perspective transformation on the character in the virtual three-dimensional space from the view point of said virtual camera onto the virtual screen... ... critical near distance which is shorter than the critical far distance; anda perspective transformation system (103, 105, 111) for performing perspective transformation on the character (300, 310) in the virtual three-dimensional space from the view point (403) of said virtual camera (401) onto the virtual screen (402);characterized bya view point mover (103, 105) for moving the position of the view point (403) closer to the character (300, 310) when said far distance determining section (103, 105) determines that the calculated distance (D) is longer than the critical far distance; and for moving the position of the view point (403) away from the character (300, 310) when said near distance determining section (103, 105) determines that the calculated distance (D) is shorter than the... ... character movement determining section (103, 105) for determining whether the character (300, 310) has moved beyond a predetermined range during a predetermined period, wherein said view point mover (103, 105) moves the position of the view point (403) such that the distance (D) between the view point (403) and the character (300, 310) reaches a predetermined distance that is longer than the ... the input means,A distance calculation means to calculate the distance between the position in the inside of the imaginary|virtual three-dimensional space of said character moved by said character movement means, and the position of the viewpoint of an imaginary|virtual camera,A long distance determination means to determine whether the distance which said distance calculation means calculated is longer than a predetermined critical long distance... ... which said distance calculation means calculated by said long distance determination means being longer than a critical long distance,The short distance-ized movement means which moves the position of said viewpoint so that said character may be approached,When it determines with the distance which said distance calculation means calculated by said short-distance determination means being shorter than a critical short distance,The long distance-ized movement means which moves so that the position of said viewpoint may be become further apart from said character,When it determines with the distance which said distance calculation means calculated existing in the range... ... What is claimed is: 1. A video game apparatus, which moves a character in a virtual three-dimensional space and performs perspective transformation on the character from a view point of a virtual camera onto a virtual screen, comprising: a distance calculator that calculates a distance between a position in the virtual three-dimensional space of the character and a position of the view point of the virtual camera; a far distance determining section that determines whether the distance calculated by said distance calculator is longer than a predetermined critical far distance; a view point mover that moves the position of the view point closer ... distance determining section determines that the calculated distance is longer than the critical far distance; and a perspective transformation system that performs perspective transformation on the character in the virtual three-dimensional space from the view point of said virtual camera onto the virtual screen... ... Basic Derwent Week: 200346

16/3,K/9 (Item 9 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Recording medium for video game device, stores program which moves camera viewpoint from its current position to found position, and which displays image of main object as seen from camera viewpoint

Patent Assignee: KONAMI CO LTD (KONA); KONAMI COMPUTER ENTERTAINMENT OSAKA KK (KONA); KONAMI KK (KONA)
Inventor: SHINKAI T; TASHIRO M

Patent Family (5 patents, 32 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1275422	A2	20030115	EP 200215517	A	20020710	200316	B
US 20030013523	A1	20030116	US 2002191143	A	20020709	200316	E
JP 2003024624	A	20030128	JP 2001212703	A	20010712	200318	E
JP 3479522	B2	20031215	JP 2001212703	A	20010712	200405	E
US 6926608	B2	20050809	US 2002191143	A	20020709	200552	E

Abstract:
Image processing program which finds the position of a camera viewpoint appropriate for controlling the determination of the action of a main object. The program **moves** the camera **viewpoint** from its current position to the found position. The program displays an image of the main object as seen from the camera viewpoint... ... control operation of determining an action of the main character (main object), which control operation is assumed to be performed by the game player; a **viewpoint** movement section **302** that **moves** the camera **viewpoint** from its current position to the position found by the viewpoint determination section **301**; and an image display section **303** that displays an image of... ...

Claims:
of a game and that moves through virtual three-dimensional space in which objects of a plurality of types are arranged, as seen from a **virtual camera viewpoint**, and said program makes a game device function as:**viewpoint** determination means for finding a position of said camera **viewpoint** appropriate to a control operation of determining an action of the main object, said control operation is assumed to be performed by the game **player**;**viewpoint** movement means for **moving** said camera **viewpoint** from its current position to the position found by said viewpoint determination means; andimage display means for displaying an image of the main object... ... Basic Derwent Week: **200316**

16/3,K/10 (Item 10 from file: 350)
DIALOG(R)File 350: Derwent WPIX

3D video game device controller for detecting more complex game by individually detecting movement in three axial directions

Patent Assignee: KONAMI CO LTD (KONA); KONAMI DIGITAL ENTERTAINMENT CO LTD (KONA); KONAMI KK (KONA)
Inventor: FUKUNAGA S; MATSUYAMA S; UEDA M; UEDA R; UEDA S

Patent Family (7 patents, 29 countries)							
Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1206950	A2	20020522	EP 2001126584	A	20011115	200271	B
JP 2002153673	A	20020528	JP 2000350252	A	20001116	200271	E
US 20020065121	A1	20020530	US 200115110	A	20011113	200271	E
KR 2002038454	A	20020523	KR 200132274	A	20010609	200274	E
US 6921332	B2	20050726	US 200115110	A	20011113	200549	E
KR 509538	B	20050823	KR 200132274	A	20010609	200662	E
JP 4027031	B2	20071226	JP 2000350252	A	20001116	200806	E

Claims:
progress of the game based on operation signals from the 3D video game device controller;display control means for creating three-dimensional images from a **viewpoint** of a **virtual camera** and for displaying said three-dimensional images on the screen of said monitor, said three-dimensional images including an opponent **character** displayed as facing the game **player** when said game **player** is positioned in a play space in front of said monitor screen;head detection means for detecting a position of a head of the game **player** in at least right and left directions relative to a fixed position of the monitor screen when said game **player** is positioned in the play space;**viewpoint** change means for **moving** the **viewpoint** of said **virtual camera** in accordance with a direction and amount of change in the detected head position relative to the fixed position of the monitor screen;said game... Basic Derwent Week: **200271**

16/3,K/11 (Item 11 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Interactive environment systems, e.g. immersive games and virtual reality or shared multi-user virtual environment systems providing user or users with view of virtual world where virtual user appears
Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG); PHILIPS AB (PHIG); US PHILIPS CORP (PHIG)
Inventor: RUTGERS J

Patent Family (9 patents, 22 countries)							
Patent Number	**Kind**	**Date**	**Application Number**	**Kind**	**Date**	**Update**	**Type**
WO 1999035597	A2	19990715	WO 1999IB6	A	19990107	199936	B
EP 966716	A2	19991229	EP 1999900011	A	19990107	200005	E
			WO 1999IB6	A	19990107		
CN 1273656	A	20001115	CN 1999800233	A	19990107	200115	E
US 6241609	B1	20010605	US 1999228220	A	19990111	200133	E
KR 2000076066	A	20001226	WO 1999IB6	A	19990107	200134	E
			KR 1999708154	A	19990908		
JP 2001515630	W	20010918	JP 1999535889	A	19990107	200169	E
			WO 1999IB6	A	19990107		
CN 1132117	C	20031224	CN 1999800233	A	19990107	200564	E
KR 597329	B1	20060710	WO 1999IB6	A	19990107	200728	E
			KR 1999708154	A	19990908		
JP 4276704	B2	20090610	JP 1999535889	A	19990107	200938	E
			WO 1999IB6	A	19990107		

Abstract:
A multi-user interactive virtual environment system wherein each user is provided with data to generate a respective image of the virtual environment and **characters** therein, including an assigned **character** (100) particular to that individual user, from a respective **virtual camera** (110) **viewpoint** (A, B, C) determined at least partially by the user-directed motion of their assigned **character**. Each **character** has an interaction zone of predetermined size and shape maintained about its current virtual environment location. When the respective interaction zones of two or more user-assigned **characters** (100, 130) overlap, their respective **virtual cameras** (110) are controlled to **move** from first- to third-person (A-C) **viewpoints** for as long as the overlap remains. In a refinement (Fig. 17),at least one further interaction zone at a given location within the virtual... ...
Basic Derwent Week: **199936**

16/3,K/12 (Item 12 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Viewpoint positioning mechanism of image processor used in video game machine - sets up area for movement of viewpoint of camera area in which virtual object is placed at predetermined distance from three dimensional surface
Patent Assignee: SEGA ENTERPRISES KK (SEGA)
Inventor: FUSHIMASA A; MATSUMOTO T; MIYOSHI T; SETSUMASA A; WATANABE Y

Patent Family (2 patents, 2 countries)							
Patent Number	**Kind**	**Date**	**Application Number**	**Kind**	**Date**	**Update**	**Type**
JP 11137842	A	19990525	JP 1998250116	A	19980903	199931	B
US 6226008	B1	20010501	US 1998146936	A	19980903	200126	E

Abstract:
A game device enabling adjustment of the virtual **viewpoint** displaying a game character to be positioned to view the surroundings of the **character** in a broad range. When the manipulation **character** C stands still, the **viewpoint** of the **virtual cameral 30** can move along the face of the exterior sphere **40**B in accordance with manipulations of the game **player**. Upon collision with an obstacle, this **virtual camera** approaches the **character** in the direction of the face of the interior

sphere 40A. However, the virtual camera does not approach the **character** C beyond the interior sphere. ...

Claims:
from a virtual viewpoint at a predetermined position.said image processing device comprising viewpoint position setting means for setting the area within which said virtual **viewpoint moves** along the face of a three-dimensional shape at a predetermined distance from said virtual object,wherein said viewpoint position setting means receives a manipulation signal corresponding to the amount of movement of said virtual viewpoint from input means, and thereby allows said virtual **viewpoint** to **move** continuously inside said area.

16/3,K/13 (Item 13 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Video game machine displaying real time images changed when virtual game character is manipulated to move by a player
Patent Assignee: KONAMI CO LTD (KONA); KONAMI KK (KONA)
Inventor: MIZUMOTO T

Patent Family (3 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 933105	A2	19990804	EP 1999101855	A	19990128	199941	B
JP 11207029	A	19990803	JP 199816203	A	19980128	199941	E
US 6409597	B1	20020625	US 1999237271	A	19990125	200246	E

Abstract:
ADVANTAGE - Enhanced virtual reality is obtained by automatically **shifting** the play **viewpoint** on the game screen... A video game machine includes a viewpoint-position control unit (254). The viewpoint-position control unit (254) uses a **rendering unit** (255) to set the position of a viewpoint when a **player**'s car is displayed in a game screen on a monitor (2). The **viewpoint** is positioned behind and slightly above the **player**'s car, and is **moved** along **viewpoint** positions provided in the world coordinate system. The **viewpoint** closest to the **player**'s car corresponds to zero points, and the **viewpoint** farthest from the **player**'s car corresponds to 500 points. Set points for the **viewpoint** are provided in accordance with whether each **viewpoint** condition is satisfied. In the case where the present points for the **viewpoint** differ from the set points when each **viewpoint** condition is satisfied, the **viewpoint** is **moved** at a **moving** speed based on the number of points per frame... ... a playerprimes car is displayed in a game screen on a monitor. The viewpoint is positioned behind and slightly above the playerprimes car, and is **moved** along **viewpoint** positions provided in a world coordinate system. A viewpoint closest to the playerprimes car corresponds to zero points, and a viewpoint farthest from the playerprimes... ... accordance with whether each viewpoint condition is satisfied. In the case where the present points for the viewpoint differ from the set points when each **viewpoint** condition is satisfied, the **viewpoint** is **moved** at a **moving** speed based on a number of points per frame. ...

Claims:
and a selected position provided in accordance with said predetermined viewpoint condition; condition determination means for determining whether said predetermined viewpoint condition is satisfied; and **viewpoint**-position control means for **moving** the **viewpoint** to each selected position when said predetermined viewpoint condition is satisfied... ... in response to said operation signal during continuous execution of gaming;condition determination means for determining whether ones of said viewpoint conditions are satisfied; and **viewpoint**-position control means for **moving** the **viewpoint** to from a present predetermined position to one of the selected predetermined positions corresponding to one of said **viewpoint** conditions at one of predetermined **viewpoint moving** speeds associated with said one of said **viewpoint** conditions when said one of said viewpoint conditions is satisfied.

16/3,K/14 (Item 14 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Image processor for video games - moves first polygon such that gap is not formed between first and second polygons, when entire object shape is varied

Patent Assignee: HAYAMA Y (HAYA-I); HAYASHI S (HAYA-I); KAWAMURA T (KAWA-I); KIDA M (KIDA-I) ; MINE Y (MINE-I); NAKAMURA S (NAKA-I); NOGUCHI K (NOGU-I); O K (OKKK-I); TANAKA H (TANA-I); TANIMURA T (TANI-I); WARAMA N (WARA-I); YAMAGATA S (YAMA-I); SEGA CORP (SEGA); SEGA ENTERPRISES KK (SEGA)
Inventor: O K; HAYAMA Y; HAYASHI S; KAWAMURA M; KAWAMURA T; KIDA M; MINE Y; MINE Y I; NAKAMURA S; NAKAMURA T; NOGUCHI K; O K; TANAKA H; TANIMURA T; WARAMA N; YAMAGATA S

Patent Family (9 patents, 3 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 10198821	A	19980731	JP 1997302056	A	19971104	199841	B
KR 1998042193	A	19980817	KR 199758688	A	19971107	199937	E
US 20010000779	A1	20010503	US 1997965008	A	19971105	200126	E
			US 2001750911	A	20010102		
US 20010033282	A1	20011025	US 1997965008	A	19971105	200170	E
			US 2001841242	A	20010425		
US 20010034255	A1	20011025	US 1997965008	A	19971105	200170	E
US 6343987	B1	20020205	US 1997965008	A	19971105	200211	E
US 6738067	B2	20040518	US 1997965008	A	19971105	200433	E
			US 2001841242	A	20010425		
US 6958751	B2	20051025	US 1997965008	A	19971105	200570	E
			US 2001750911	A	20010102		
KR 534494	B1	20060228	KR 199758688	A	19971107	200703	E

Abstract:
ADVANTAGE - Records image obtained from defined **view point** , effectively. **Moves** curved portion of object, naturally.

Claims:
is captured from a viewpoint in a virtual space, comprising:presentation control means for controlling presentation of the image containing the object which changes in **shape**;viewpoint determining means for determining a position of **the** viewpoint for capturing the image containing the object, wherein **the** viewpoint corresponds to **a virtual** camera that captures motion of the object, and wherein the position of **the** viewpoint is determined continuously in real-time based on a player's operation **to** move **the** viewpoint **and** moves independently of the object; and recording means for recording the image obtained from the viewpoint determined by the viewpoint determining means.Basic Derwent Week: **199841**

16/3,K/15 (Item 15 from file: 347)
DIALOG(R)File 347: JAPIO

VIEW POINT CONTROL METHOD OF PSEUDO CAMERA IN 3D VIDEO GAME AND 3D VIDEO GAME DEVICE

Pub. No.: 2003-199972 [JP 2003199972 A]
Published: July 15, 2003 (**20030715**)
Inventor: OKUDA NAOYA

KOBAYASHI TATSUYA
FUJIMOTO HIROBUMI
MATSUYAMA SHIGENOBU
Applicant: KONAMI CO LTD
Application No.: 2003-024836 [JP 200324836]
Division of 2000-245251 [JP 2000245251]
Filed: August 11, 2000 (20000811) ...
Published: 20030715)

ABSTRACT
PROBLEM TO BE SOLVED: To enable an image from a **view point** of a **pseudo camera** to **follow** the free movement of the **player**.
SOLUTION: A 3D video game device is provided with a monitor 11 on a prescribed height position of a game machine case 10 for displaying... ...image, a game control part 100 for controlling a game progress and a plotting control part 110 for preparing a 3-dimensional image from the **view point** of the **pseudo camera** and displaying a game image on the screen of the monitor 11. The horizontal direction and height position in a space of the head part of the **player** positioned in a play area in front of the screen of the monitor 11 is detected on the basis of one ultrasonic wave transmitter 31 and two ultrasonic wave receivers 32 and 33 and the **view point** of the **pseudo camera** is **moved** so as to follow the change of the direction and change amount of the detected position of the **player** head part. COPYRIGHT: (C)2003,JPO Di01

16/3,K/16 (Item 16 from file: 347)
DIALOG(R)File 347: JAPIO
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IMAGE PROCESSOR
Pub. No.: 2003-022455 [JP 2003022455 A]
Published: January 24, 2003 (**20030124**)
Inventor: WATANABE YASUHIRO
FUSHIMASA AKIO
MATSUMOTO TAKUYA
MIYOSHI TAKAO
Applicant: SEGA CORP
Application No.: 2002-100587 [JP 2002100587]
Division of 10-250116 [JP 98250116]
Filed: September 03, 1998 (19980903)
Priority: 09-240032 [JP 97240032], JP (Japan), September 04, 1997 (19970904) ...
Published: 20030124)

ABSTRACT:
of the game character can be obtained.
SOLUTION: An image processor which displays, on a display means, video obtained by picking up a virtual body **moving** in a virtual space from a virtual **viewpoint** at a specific position is equipped with a viewpoint position setting means which sets an area where the virtual **viewpoint** can **move** along an area composed of a plane of a solid body at a specific distance form the virtual body. This **viewpoint** position setting means can continuously move the virtual **viewpoint** in the area by receiving an operation signal corresponding to the amount of movement of the virtual **viewpoint** from an input means. When an operation **character** C stops, the **viewpoint** of a **virtual camera** 30 can be **moved** along an external spherical surface 40B through a **player**'s operation and this **virtual camera**, when colliding against an obstacle, etc., approaches an internal circle 40A, but never approaches the **character** C across the internal circle. COPYRIGHT: (C)2003,JPO Di01

16/3,K/17 (Item 17 from file: 347)
DIALOG(R)File 347: JAPIO
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PSEUDO CAMERA VIEWPOINT MOVEMENT CONTROL METHOD IN 3D VIDEO GAME AND 3D

VIDEO GAME DEVICE
Pub. No.: 2002-052240 [JP 2002052240 A]
Published: February 19, 2002 (**20020219**)
Inventor: OKUDA NAOYA
KOBAYASHI TATSUYA
FUJIMOTO HIROBUMI
MATSUYAMA SHIGENOBU
Applicant: KONAMI CO LTD
Application No.: 2000-245251 [JP 2000245251]
Filed: August 11, 2000 (20000811) ...
Published: 20020219)

ABSTRACT:
PROBLEM TO BE SOLVED: To actively present images from the intended **viewpoint** of a **player** by making the **viewpoint** of a **pseudo camera follow** free movements of the **player**.
SOLUTION: The 3D video game machine has a monitor 11 displaying an image, provided at a prescribed height of a game machine casing 10, a game control section 100 controlling the progress of a game, a drawing control section 110 preparing a three-dimensional image from the **viewpoint** of a **pseudo camera** and displaying a game image on the monitor 11's screen. The transverse direction and the height of the head of a **player** in a space in a play area before the screen of the monitor 11 are detected on the basis of one ultrasonic transmitter 31 and two ultrasonic receivers 32 and 33, and the **viewpoint** of the **pseudo camera** is **moved** so as to follow the direction and amount of change in the position of the head of the **player** detected. COPYRIGHT: (C)2002,JPO Di01

19/3,K/1 (Item 1 from file: 347)
DIALOG(R)File 347: JAPIO

GAME IMAGE CONTROL DEVICE
Pub. No.: 2002-360920 [JP 2002360920 A]
Published: December 17, 2002 (**20021217**)
Inventor: HASHINO KATSURA
OYAMA SATOSHI
Applicant: ATLUS CO LTD
Application No.: 2001-169456 [JP 2001169456]
Filed: June 05, 2001 (20010605) ...
Published: 20021217)

ABSTRACT:
PROBLEM TO BE SOLVED: To realize image expression with playability and reality to keep the consistency of **relationship** between the operating direction of a player and the movement direction of a player's character in a game in which the **player's character** is displayed on a screen by an image seen from the back thereof.
SOLUTION: A game is displayed on the screen 4 by an image from a **virtual camera view point** C for photographing the **player character** A from the back, and the existing state of an obstacle M interrupting the camera visual point between the camera visual point C and the **player character** A is detected. When the obstacle M exists, the camera visual point C is caused to approach the player character A to be switched to... ...the permeable image display. Thus, image expression can be made without being interrupted by the obstacle M and the player character A so that the **relationship** between the operating direction of the controller and the movement direction of the player character can be kept. COPYRIGHT: (C)2003.JPO Di01

19/3,K/2 (Item 2 from file: 347)
DIALOG(R)File 347: JAPIO

GAME DEVICE
Pub. No.: 11-146979 [JP 11146979 A]

Published: June 02, 1999 (**19990602**)
Inventor: HAYASHIDA YASUHIRO
UENO ATSUSHI
YASUDA HIROSHI
Applicant: SEGA ENTERP LTD
Application No.: 10-256671 [JP 98256671]
Filed: September 10, 1998 (19980910)
Priority: 09248081 [JP 979248081], JP (Japan), September 12, 1997 (19970912) ...
Published: **19990602)**

ABSTRACT:
of a television monitor 6 of a driving game device of a motorcycle is constituted by synthesizing a two-dimensional picture image formed by a **viewpoint** from a **virtual camera** arranged in the back and an upper part of a **player character** 51 arranged in a virtual three- dimensional space and a picture image of support information. A radar screen 65 (auxiliary screen) of a small screen showing a shape of a course and positional **relationship** between player's car and the other car on the course is displayed at the center on the left of the screen as the support... ...and the other car 61 to switch over to the display which makes it easy for a player to judge a course situation and positional **relation** with the other machine in accordance with a situation. COPYRIGHT: (C)1999,JPO Di01

3DCG animated image display procedure for e.g. computer, camera, game apparatus - involves setting up position of virtual camera, for displaying first character and second character on 2D screen, on predetermined plane coordinates after rotation conversion of predetermined point
Patent Assignee: HUDSON KK (HUDS-N)
Inventor: KAWAMURA K

Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 11306385	A	19991105	JP 1998116406	A	19980427	200004	B
JP 3765453	B2	20060412	JP 1998116406	A	19980427	200626	E

Abstract:
coordinates (C) after the rotation conversion of a point (P1). DETAILED DESCRIPTION - An intermediate point (M), which divides a line segment (AB) by a predetermined **ratio**, between two points (A,B) is calculated when the plane coordinates of the first character is set to A, and the plane coordinates of the second character, which can be operated by the user, is set to B in the 3DCG animation space. Point (P1), which is **proportional** to the length of the line segment, on the extension line of the line segment beside B is computed. The line segment MP1 is rotated... ...ADVANTAGE - Effectively gives user who e.g. plays a ball game e.g. baseball, soccer, the feeling of the actual **player**. DESCRIPTION OF DRAWING(S) - The figure shows the **viewpoint** conversion, and the image diagram of the perspective conversion process. (1) **Virtual camera**; (A,B) Points; (C) Plane coordinates; (C1) First **character**; (C2) Second **character**; (M) Intermediate point; (P1) Third point.... Basic Derwent Week: **200004**...

Image processor for video game, e.g martial arts simulation game - applies simulated centripetal force to virtual space models during movement calculations
Patent Assignee: HAGA N (HAGA-I); KAKU T (KAKU-I); MINE Y (MINE-I); NAKATANI M (NAKA-I); NISHIKAWA S (NISH-I); ONO T (ONOT-I); OSAKI M (OSAK-I); SEKINE N (SEKI-I) ; SUGIMOTO T

(SUGI-I); UCHIDA M (UCHI-I); YAMAGUCHI T (YAMA-I); YOSHIDA S (YOSH-I); YUI R (YUIR-I); SEGA CORP (SEGA); SEGA ENTERPRISES KK (SEGA); SEGA ENTERPRISES LTD (SEGA)
Inventor: HAGA N; KAKU T; KARU T; MINE Y; NAKATAMI M; NAKATANI M; NISHIKAWA S; OCHIDA M; ONO T; OSAKI M; SEKINE N; SUGIMOTO T; UCHIDA M; YAMAGUCHI T; YOSHIDA S ; YUI R; KAKO T

Patent Family (35 patents, 24 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1997046295	A1	19971211	WO 1997JP1896	A	19970604	199804	B
AU 199729783	A	19980105	AU 199729783	A	19970604	199821	E
EP 842682	A1	19980520	EP 1997924313	A	19970604	199824	E
			WO 1997JP1896	A	19970604		
JP 10500414	X	19981104	WO 1997JP1896	A	19970604	199903	E
			JP 1998500414	A	19970604		
CN 1194592	A	19980930	CN 1997190661	A	19970604	199907	E
BR 199702282	A	19990720	BR 19972282	A	19970604	199940	E
			WO 1997JP1896	A	19970604		
KR 1999036200	A	19990525	WO 1997JP1896	A	19970604	200032	E
			KR 1998700868	A	19980205		
US 6322448	B1	20011127	WO 1997JP1896	A	19970604	200175	E
			US 199811023	A	19980820		
US 20020013172	A1	20020131	WO 1997JP1896	A	19970604	200210	E
			US 199811023	A	19980820		
			US 2001962594	A	20010926		
TW 452498	A	20010901	TW 1997107782	A	19970605	200240	E
TW 461821	A	20011101	TW 1997123334	A	19970605	200248	E
AU 2002301127	A1	20030403	AU 199729783	A	19970604	200432	NCE
			AU 2002301127	A	20020920		
EP 842682	B1	20050112	EP 1997924313	A	19970604	200505	E
			WO 1997JP1896	A	19970604		
			EP 200418164	A	19970604		
DE 69732211	E	20050217	DE 69732211	A	19970604	200514	E
			EP 1997924313	A	19970604		
			WO 1997JP1896	A	19970604		
EP 842682	B9	20050608	EP 1997924313	A	19970604	200538	E
			WO 1997JP1896	A	19970604		
			EP 200418164	A	20040730		
ES 2239354	T3	20050916	EP 1997924313	A	19970604	200562	E
EP 1580695	A2	20050928	EP 1997924313	A	19971211	200563	E
			EP 200418164	A	19970604		
US 6949024	B2	20050927	US 199711023	A	19970604	200563	E
			WO 1997JP1896	A	19970604		
			US 2001962594	A	20010926		
KR 2005033616	A	20050412	KR 2005701296	A	20050124	200564	E
CN 1651118	A	20050810	CN 1997190661	A	19970604	200572	E
			CN 200510009439	A	19970604		
CN 1641701	A	20050720	CN 1997190661	A	19970604	200575	E
			CN 200410095050	A	19970604		
US 20050266920	A1	20051201	WO 1997JP1896	A	19970604	200579	E
			US 199811023	A	19980820		
			US 2001962594	A	20010926		
			US 2005173057	A	20050705		
DE 69732211	T2	20051222	DE 69732211	A	19970604	200601	E
			EP 1997924313	A	19970604		
			WO 1997JP1896	A	19970604		
US 20050282630	A1	20051222	WO 1997JP1896	A	19970604	200603	E

Abstract:
The image processing device for games is a device whereby a prescribed number of models (**characters**) are set up in virtual space; these models are controlled so that this virtual space from a **virtual viewpoint** is **displayed** on **apparatus**. In order to display the movement of the models more realistically, this device is provided with apparatus for image processing that apply virtual centripetal force... ...

Claims:
a condition is established between a first character and a second character, wherein the condition is established when the first character initiates a first motion **relative** to the second character;second means for reflecting a response to the established condition in the movement of the two characters, wherein, in response to the first motion, the second character initiates a second motion **relative** to the first character; andthird means for lowering a reproduction speed of motion of the first character when the second motion succeeds **relative** to the first motion.Basic Derwent Week: **199804**

25/3,K/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Video game e.g. role playing apparatus for use in residence, has game progress controller determining whether distance between position of special object and position of view point exceeds predetermined distance
Patent Assignee: ENIX CORP (ENIX-N); SQUARE ENIX KK (SQUA-N); SQUARE ENIX KK T/A SQUARE ENIX CO LTD (SQUA-N)
Inventor: TSUCHIYA Y

Patent Family (4 patents, 33 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1428562	A2	20040616	EP 200328118	A	20031205	200444	B
JP 2004187806	A	20040708	JP 2002357268	A	20021209	200445	E
US 20040157662	A1	20040812	US 2003729977	A	20031209	200454	E
JP 3795856	B2	20060712	JP 2002357268	A	20021209	200648	E

Abstract:
In a virtual three-dimensional **space**, at least multiple **player** characters and a movable special object exist. The multiple player characters move in the virtual three-dimensional **space** according to operations **of** each player. The special object **can** be moved in the virtual three-dimensional **space** according to operations **of** each **player character**. An image, **which is** perspective-transformed in a state that a visual axis of a **virtual camera** is directed **to the** direction of the special object, is displayed as a game screen. An area, which is within a predetermined **distance** from the special object, is fixed as a safety zone. Hit points of the player characters, which are within the safety zone, do not decrease... ... virtual three-dimensional space, at least multiple player characters and a movable special object exist. The multiple player characters move in the virtual three-dimensional **space** according to operations of each player. The special **object** can be moved in the virtual three-dimensional **space** according to operations of each **player character**. An **image**, which is perspective-transformed in **a state** that a visual axis of a virtual camera is directed to the direction of the **special object**, is displayed as a game screen. An area, which is within a predetermined **distance** from the special object, is fixed as a **safety** zone. Hit points of the **player characters**, which are within the safety zone, do not decrease. However, hit points of the player characters, which are outside the safety zone, decrease. ...

Claims:
the multiple players and receives input instructions for each player character according to an operation of each player;a player character mover that moves each **player character** in the virtual space **based on** the input instruction;an object mover that moves a predetermined object in the virtual space;a display controller that causes a **display device** to display a part of the **virtual space with**

reference to the object;a position judge that **determines** a positional relationship between each **player character** and the object; anda game progress controller that changes **at least** one of a degree of advantage of a game progress and a degree of ease for each player character according to the determined positional relationship... ... controller that causes a display device to display a part of the virtual space with reference to the object;a position judge that determines a **positional relationship** between each player character and the object; anda game progress controller that changes at least one of a degree of advantage of a game... ... Basic Derwent Week: **EP 200328118**

25/3,K/2 (Item 2 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Video camera device changes view point position of player character to predetermined range, after passage of fixed time
Patent Assignee: NAMCO LTD (NAMC-N); OKAMOTO S (OKAM-I); TOYODA (TOYO-I); WATANABE H (WATA-I)
Inventor: OKAMOTO S; TOYODA A; TOYODA J; WATANABE H

Patent Family (3 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
JP 2001276420	A	20011009	JP 200095950	A	20000330	200206	B
US 20010049300	A1	20011206	US 2001819168	A	20010327	200206	E
US 7101283	B2	20060905	US 2001819168	A	20010327	200660	E

Abstract:
NOVELTY - A judging unit (128) judges the timing at which player character and an object satisfies a **predetermined relationship** relatively, after which a timer (130) measures a fixed time. A positioning unit (122) changes the view point position of the player character to predetermined...

Claims:
1. A game machine, comprising:movement instructing unit for instructing the movement of a **player** character in a three-dimensional virtual space;space setting unit for setting the shapes of said player **character** and an object existing around the **player character**, and their arrangement in said **virtual space**;**image** generating **unit** for generating an **image** in said **virtual space** as **looked** from a virtual visual point position;timing decision unit for deciding the timing at which said **player character** and said object satisfy relatively a predetermined relation for at **least** one of the shape and the arrangement in said virtual space;a timer for measuring a fixed time after said timing decision **unit** decides that said player character and said **object** satisfy the **predetermined relation**; and visual point position setting unit for shifting said visual point position **along with** the movement of said player character so that said player character may be contained in a visual field range, and changing said visual point position... ... Basic Derwent Week: **200206**

25/3,K/3 (Item 3 from file: 350)
DIALOG(R)File 350: Derwent WPIX

A video game system for generating an image signal to display a player object on a land object includes a camera code selecting one of five virtual cameras that may be fixed or track moveable and a zoom shooting a wide and then narrow range
Patent Assignee: KAWAGOE T (KAWA-I); NINTENDO CO LTD (NINT); OGAWA M (OGAW-I); UMEMIYA H (UMEM-I); YAMADA Y (YAMA-I)
Inventor: KAWAGOE T; OGAWA M; UMEMIYA H; YAMADA Y

Patent Family (7 patents, 28 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 1002560	A2	20000524	EP 1999309193	A	19991118	200034	B
JP 2000153063	A	20000606	JP 1998329807	A	19981119	200035	E
CA 2289391	A1	20000519	CA 2289391	A	19991117	200041	E
US 6325717	B1	20011204	US 1999123728	P	19990310	200203	E
			US 1999441468	A	19991117		
US 20030104864	A1	20030605	US 1999441468	A	19991117	200339	E
			US 200142715	A	20011010		
US 6612930	B2	20030902	US 1999441468	A	19991117	200359	NCE
			US 200142715	A	20011010		
CA 2289391	C	20080930	CA 2289391	A	19991117	200868	E

Claims:
means for generating land object image data to display a land object, whereinsaid land object image data includes a camera code;a plurality of **virtual cameras** previously set up in order to shoot said **player** object existing in said virtual three dimensional **space**;a camera code detecting means for detecting said camera code in relation to a position of said **player** object;a camera selecting means for selecting one of said plurality of **virtual cameras** in accordance with said camera code; andan image signal generating means for generating an image signal due to shooting said **player** object by a **virtual camera** selected by said camera selecting means... ... apparatus comprising:a player object image data generator for generating player object image data to display a player object at various positions in three dimensional **space**;a land object image data generator for generating land object image data to display a land object, whereinsaid land object image data includes a camera code;a plurality of **virtual cameras** for depicting said **player** object existing in said virtual three dimensional **space** from a corresponding plurality of different perspectives;a camera code detector for detecting a camera code included in said land object data of a land object having a **predetermined relationship** to the position of said player object;a camera selector for selecting one of said plurality of virtual cameras in accordance with said camera code... ... object and land object, said video game apparatus comprising:a player object image data generating means for generating player object image data to display a **player** object;land object image data generating means for generating land object image data to display a land object, whereinsaid land object image data includes a camera code;a plurality of **virtual cameras** previously set up in order to shoot said **player** object existing in said virtual three dimensional **space**;a camera code detecting means for detecting said camera code in relation to a position of said **player** object;a camera selecting means for selecting one of said plurality of **virtual cameras** in accordance with said camera code; andan image signal generating means for generating an image signal due to shooting said **player** object by a **virtual camera** selected by said camera selecting means.Basic Derwent Week: **200034**

Image generating device has a device to calculate angle between camera direction view point towards viewed point and direction of line if sight before moving camera
Patent Assignee: SEGA CORP (SEGA); SEGA CORP KK AS (SEGA); SEGA ENTERPRISES KK (SEGA); SEGA KK (SEGA)
Inventor: MAKOTO Y; YAMAMOTO M

Patent Family (17 patents, 22 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1999027498	A1	19990603	WO 1998JP5304	A	19981125	199935	B
EP 1047022	A1	20001025	EP 1998955923	A	19981125	200055	E
			WO 1998JP5304	A	19981125		
CN 1279798	A	20010110	CN 1998811524	A	19981125	200128	E
KR 2001032483	A	20010425	KR 2000705725	A	20000525	200164	E
JP 2000522563	X	20020910	WO 1998JP5304	A	19981125	200274	E
			JP 2000522563	A	19981125		
CN 1811286	A	20050504	CN 1998811524	A	19981125	200558	E
			CN 200410092951	A	19981125		
US 6972756	B1	20051206	WO 1998JP5304	A	19981125	200580	E
			US 2000555117	A	20000525		
CN 1183494	C	20050105	CN 1998811524	A	19981125	200620	E
KR 566366	B1	20060331	WO 1998JP5304	A	19981125	200724	E
			KR 2000705725	A	20000525		
EP 1829590	A2	20070905	EP 1998955923	A	19981125	200760	E
			EP 200711768	A	19981125		
EP 1047022	B1	20071114	EP 1998955923	A	19981125	200777	E
			WO 1998JP5304	A	19981125		
			EP 200711768	A	20070615		
DE 69838734	E	20071227	DE 69838734	A	19981125	200803	E
			EP 1998955923	A	19981125		
			WO 1998JP5304	A	19981125		
ES 2297896	T3	20080501	EP 1998955923	A	19981125	200833	E
CN 100374175	C	20080312	CN 200410092951	A	19981125	200840	E
DE 69838734	T2	20081030	DE 69838734	A	19981125	200874	E
			EP 1998955923	A	19981125		
			WO 1998JP5304	A	19981125		
EP 1829590	A3	20081217	EP 1998955923	A	19981125	200902	E
			EP 200711768	A	19981125		
JP 2009064448	A	20090326	JP 2000522563	A	19981125	200922	E
			JP 2008236995	A	20080916		

Abstract:
An image generating device for displaying on a display (1a) images for a **player** to play a gun shooting game with an enemy **character** existing in a **virtual** game **space**. The **image** generating **device** comprises: AI (artificial intelligence) processing means (101) for executing AI processing (steps S8/S9) incorporating emotions of said **character** influenced between circumstances, evaluation/determination, and factors of behaviors in said game... ...

Claims:
from a movable viewpoint in said virtual three-dimensional space, comprising: movement means for controlling the movement of said camera viewpoint upon utilizing the position **relationship** between

the observable point **set** in **relation** to said movable body and the line of sight of the current camera viewpoint... ... current camera viewpoint, wherein the position of the observable point is movable independently of the movable body and the position of the observable point is **set** in **relation** to said movable body... ... An image generating device for displaying on a display images for a **player** to play a gun shooting game with an enemy **character** existing in a **virtual** game **space**, said **image** generating **device** comprising: AI processing means for executing AI processing incorporating emotions of said **character** influenced between circumstances, evaluation/determination, and factors of behaviors in said game... Basic Derwent Week: **199935**

25/3,K/5 (Item 5 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Image processor for simulated soccer games - discriminates if prescribed inter-relationship condition is met between game character and game details
Patent Assignee: HAGA N (HAGA-I); MIFUNE S (MIFU-I); NUMATA T (NUMA-I); YAMAMOTO K (YAMA-I); YAMAMOTO M (YAMA-I); YAMASHITA M (YAMA-I); SEGA CORP (SEGA); SEGA ENTERPRISES KK (SEGA); SEGA KK (SEGA)
Inventor: HAGA N; HAGA N E; HAGA S E; HAYA N; MIFUME S E; MIFUNE S; MIFUNE S E; NUMATA S E; NUMATA T; NUMATA T E; YAMAMOTO K; YAMAMOTO K E; YAMAMOTO M; YAMAMOTO M E; YAMAMOTO S E; YAMASHITA M; YAMASHITA S E

Patent Family (26 patents, 21 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998035734	A1	19980820	WO 1998JP677	A	19980218	199839	B
JP 10230075	A	19980902	JP 199734163	A	19970218	199845	E
JP 10290886	A	19981104	JP 199836173	A	19980218	199903	E
EP 901803	A1	19990317	EP 1998904377	A	19980218	199915	E
			WO 1998JP677	A	19980218		
JP 11073525	A	19990316	JP 199836173	A	19980218	199921	E
			JP 1998159011	A	19980218		
CN 1217668	A	19990526	CN 1998800158	A	19980218	199939	E
JP 11197358	A	19990727	JP 199734163	A	19970218	199940	E
			JP 1998312569	A	19970218		
JP 3052933	B2	20000619	JP 199836173	A	19980218	200033	E
			JP 1998159011	A	19980218		
KR 2000064948	A	20001106	WO 1998JP677	A	19980218	200128	E
			KR 1998708368	A	19981019		
US 20010040575	A1	20011115	WO 1998JP677	A	19980218	200172	E
			US 1999171236	A	19990713		
KR 300832	B	20021019	WO 1998JP677	A	19980218	200326	E
			KR 1998708368	A	19981019		
US 20050239547	A1	20051027	US 1999171236	A	19990713	200571	E
			US 2005171735	A	20050630		
CN 1640519	A	20050720	CN 1998800158	A	19980218	200575	E
			CN 200410082183	A	19980218		
US 6989829	B2	20060124	WO 1998JP677	A	19980218	200608	E
			US 1999171236	A	19990713		
EP 901803	B1	20060215	EP 1998904377	A	19980218	200614	E
			WO 1998JP677	A	19980218		
			EP 200476956	A	20040702		
CN 1188193	C	20050209	CN 1998800158	A	19980218	200622	E
EP 1642624	A2	20060405	EP 1998904377	A	19980820	200624	E
			EP 200476956	A	19980218		
JP 3763220	B2	20060405	JP 199734163	A	19970218	200624	E
			JP 1998312569	A	19981102		
JP 2006087944	A	20060406	JP 1998312569	A	19981102	200625	NCE
			JP 2005350892	A	20051205		
DE 69833482	E	20060420	DE 69833482	A	19980218	200628	E
			EP 1998904377	A	19980218		
			WO 1998JP677	A	19980218		
DE 69833482	T2	20061012	DE 69833482	A	19980218	200668	E
			EP 1998904377	A	19980218		
			WO 1998JP677	A	19980218		
ES 2260830	T3	20061101	EP 1998904377	A	19980218	200673	E
JP 2007054656	A	20070308	JP 199836173	A	19980218	200720	E
			JP 2006318414	A	20061127		
JP 3951246	B2	20070801	JP 1998312569	A	19970218	200752	NCE
			JP 2005350892	A	20051205		
US 20090115781	A1	20090507	WO 1998JP677	A	19980218	200931	E
			US 1999171236	A	19990713		
			US 2005171735	A	20050630		

Claims:
forming lines situated along a reference plane serving as the reference in said virtual space such that the reference plane and the polygons have a **predetermined**, **fixed relationship** to one another;determination means for determining the positional relationship between said polygons and said virtual camera; andpolygon tilting means for tilting said polygons... ... angle of said virtual camera is set for each of said plurality of predetermined areas; object setting means for setting an object in said virtual **space**; object behavior controlling means for controlling behavior of said object in said virtual **space** based on an operation of a **player**; camera angle adjusting means for adjusting an angle at which said **virtual camera** views said object, based on positional coordinates of said **virtual camera** in said virtual **space**; and object positional determination means for determining whether said object is located in one of said plurality of predetermined areas based on the positional coordinates of said virtual camera; ... Basic Derwent Week: **199839**

25/3,K/6 (Item 6 from file: 350)
DIALOG(R)File 350: Derwent WPIX

Simulated area weapons effects display apparatus - has processor controlling display of information for troops and vehicles in simulated battlefield, firing rounds into battlefield and effects noted on troops and vehicles
Patent Assignee: MOTOROLA INC (MOTI)
Inventor: FITZGERALD M R; GRIFFIN C T

Patent Family (4 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
EP 668481	A1	19950823	EP 1995102138	A	19950216	199538	B
JP 7234095	A	19950905	JP 199549285	A	19950215	199544	E
US 5556281	A	19960917	US 1994197903	A	19940217	199643	E
US 5695341	A	19971209	US 1994197903	A	19940217	199804	E
			US 1995445913	A	19950522		
			US 1996654046	A	19960528		

Abstract:
in a simulated battlefield. Rounds of munition are fired into the simulated battlefield and the effects of such munitions are displayed on the troops and **vehicles display** devices. These **display devices** include **character** displays for troops and display screen for vehicles. The text **character** display may **include** such information as damage assessment, weapon type, miss **distance** and **miss** direction. A screen display may be used for a vehicle display. **The** screen display depicts similar information as for the text character display, but in a graphical representation via icons representing various battlefield effects. ...

Claims:
of-sight, said target vicinity including further including a type of simulated round of munition fired and a range and a direction from reference point **relative** to a location of **said** simulated round of munition and contour lines, said display device coupled to said processor.Basic Derwent Week: **199538**

10/3K/1 (Item 1 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Game system, computer readable storage medium storing game program and image displaying method

Patent Assignee:

- **Konami Digital Entertainment Co., Ltd.**; (8204390)
  7-2, Akasaka 9-chome Minato-ku; Tokyo 107-8324; (JP)
  (Proprietor designated states: all)

Inventor:

- **Kitao, Takashi,c/ o Konami Computer Entertainment**
  Japan Inc.,20-3 Ebisu 4-chome; Shibuya-ku,Tokyo; (JP)

Legal Representative:

- **Haley, Stephen (79721)**
  Gill Jennings & Every LLP Broadgate House 7 Eldon Street; London EC2M 7LH; (GB)

	Country	Number	Kind	Date	
Patent	EP	1136107	A2	20010926	(Basic)
	EP	1136107	A3	20021009	
	EP	1136107	B1	20080827	
Application	EP	2001302725		20010323	
Priorities	JP	200088606		20000324	

Claims:
camera by switching alternatively said first view point position to said second view point position corresponding to a state of said operation object and for **moving** said **virtual camera** along a virtual line connecting said first view point position with said second view point position while keeping a state of capturing said operation object... ...captured from a predetermined view point position with a virtual camera wherein a first object operated by a player and a second object having a **relation** with the first object move in a virtual three-dimensional space; the game system being characterized by comprising: a view point position setting device for setting a first **view point** posltion to view a predetermined observation point following said moving first **object** and for **setting** a second **view point** position viewed based on an observation point settled between both objects when said first object has a **relation** to said second object; a distance judging device for judging a distance between said first object and said second object; and a virtual camera setting... ...view point position corresponding to a judgement result by said distance judging device.
4. A game system according to claim 3, characterized in that said **virtual camera** setting device **moves** said **virtual camera** along a virtual line connecting said first view point position with said second view point position while keeping the state in which said first object... ...captured from a predetermined view point position with a virtual camera wherein a first object operated by a player and a second object having a **relation** with the first object move in a virtual three-dimensional space, to function as: a view point position setting device for setting a first **view point** position to view a predetermined observation point following said moving first **object** and for **setting** a second **view point** position viewed based on an observation point settled between both characters when said first object has a **relation** to said second object; a distance judging device for judging a distance between said first object and said second object; and a virtual camera setting... ...judgement result by said distance judging device.
11. A computer readable storage medium according to claim 10, recording a game program, characterized by that said **virtual camera** setting device **moves** said **virtual camera** along a virtual line connecting said first view point position to said second view point position while keeping a state in which said first object... ...camera by alternatively switching said first view point position to said second view point position in accordance with a state of said operation object, and **moving** said **virtual camera** along a line connecting said first view point position with said second view point position while keeping a state of capturing said operation object when... ...captured from a

predetermined view point position with a virtual camera wherein a first object operated by a player and a second object having a **relation** with the first object move in a virtual three-dimensional space, characterized by comprising; a view point position setting device for setting a first **view point** position to view a predetermined observation point following said moving first **object** and for **setting** a second **view point** position viewed based on a observation point settled between both objects when said first object has a relation to said second object, a distance judging...

16/3K/1 (Item 1 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

THREE DIMENSIONAL IMAGE PROCESSING PROGRAM, THREE DIMENSIONAL IMAGE PROCESSING METHOD, AND VIDEO GAME DEVICE

Patent Assignee:

- **Konami Digital Entertainment Co., Ltd.**; (7944680)
  9-7-2, Akasaka Minato-ku; Tokyo 107-8324; (JP)
  (Proprietor designated states: all)

Inventor:

- **HIGASHIYAMA, Makoto**
  658, Abe; Sakurai-shi, Nara 633-0054; (JP)
- **NAGAYAMA, Kentaro**
  1-3-34-404, Tomobuchi-cho, Miyakojima-ku; Osaka-shi, Osaka 534-0016; (JP)

Legal Representative:

- **Jenkins, Peter David et al (55201)**
  Page White & Farrer Bedford House; John StreetLondon WC1N 2BF; (GB)

	Country	Number	Kind	Date	
Patent	EP	1506530	A1	20050216	(Basic)
	EP	1506530	B1	20081008	
	WO	2003098554		20031127	
Application	EP	2003725820		20030516	
	WO	2003JP6170		20030516	
Priorities	JP	2002146638		20020521	

Specification:
This display box is rectangular in shape, e.g. cube 1 on a side in the present embodiment. The display box is provided with a **virtual camera viewpoint** in the center thereof, and this **virtual camera viewpoint moves** inside the virtual three dimensional space in response to the movement of the **character**. Note that the length 1 of one side of the display box has a value of the n-th power of 2 for the purpose...

16/3K/3 (Item 3 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Recording medium storing image display program, image display method, video game machine, and image display program

Patent Assignee:

- **Konami Corporation**; (3072833)
  4-1, Marunouchi 2-chome; Chiyoda-ku,Tokyo; (JP)
  (Proprietor designated states: all)

Inventor:

- **Mori, TakanoriKonami Comp. Entertainment Osaka**
  5-25, Umeda 2-comeKita-ku; Osaka-shiOsaka; (JP)

Legal Representative:

- **Muller-Bore & Partner Patentanwalte (100651)**
  Grafinger Strasse 2; 81671 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1316342	A2	20030604	(Basic)
	EP	1316342	A3	20030702	
	EP	1316342	B1	20070117	
Application	EP	2002026104		20021122	
Priorities	JP	2001363296		20011128	

Specification:
Fig. 5 is executed by the central operation section 50 executing the image display program. In step S1, the central operation section 50 moves the **character** object and snowboard object based on the operation by the **player** which is accepted by the input section 30. In step S2, the central operation section 50 moves the **virtual camera view point**. In the present embodiment, the snowboard course, which is displayed as a background of the **character**, is displayed by regenerating the moving images, which are stored in advance regenerated as a movie. Therefore the **virtual camera view point** position has been preset, and the images are displayed as if the **virtual camera view point** relatively **moves** as the movie is regenerated. In step S3, the central operation section 50 executes selection processing of the **character** images and snowboard images to be displayed. This selection processing of the character images and snowboard images will be described later with reference to Fig... ...snowboard object are the same. Fig. 7B is a diagram depicting the calculation processing for calculating the look down angle to look down on the **character** object from the virtual camera view point based on the perspective transformation. The virtual camera view point C1 shown in Fig. 7B indicates the view... ...and the line connecting the point P and the point 'C' is regarded as the look down angle (theta)2)) to look down on the **character** object 301 from the **virtual camera view point** C2)). When the **virtual camera view point** C1)) moves to the **virtual camera view point** C2)), the snowboard image stored in the panel object image storing section 93 is scaled according to the difference of the angles (phi) between the... ...Fig. 9 is a diagram depicting a method of calculating the magnification based on the angle to look down on the snowboard object from the **virtual camera view point**. Fig. 9A is a view of the snowboard object and **virtual camera** from the side, where the center position of the snowboard object (a predetermined point P disposed at the foot of the **character** object 301) is the origin O (0, 0), the progressing direction of the snowboard object is the x axis, and the vertically up direction of the snowboard object in the game space is the y axis. The **view point** position of the virtual camera, which **moves** in the double arrow mark direction b on the arc with radius L with the origin O as the center, is the virtual camera view...

16/3K/4 (Item 4 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Character display method in three-dimensional video game

Patent Assignee:

- **Kabushiki Kaisha Square Enix (also trading as Square Enix Co., Ltd.)**; (4526500)
  Shinjuku Bunka Quint Building 3-22-7 Yoyogi, Shibuya-ku; Tokyo 151-8544; (JP)
  (Proprietor designated states: all)

Inventor:

- **Ohno, Koji**
  Square Co., Ltd.,Arco Tower,1-8-1, Shimomeguro; Meguro-ku,Tokyo 153-8688; (JP)
- **Miyagawa, Yoshiyuki**
  Square Co., Ltd.,Arco Tower,1-8-1, Shimomeguro; Meguro-ku,Tokyo 153-8688; (JP)

Legal Representative:

- **Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721)**
  Leopoldstrasse 4; 80802 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1312400	A2	20030521	(Basic)
	EP	1312400	A3	20060118	
	EP	1312400	B1	20080813	
Application	EP	2002025563		20021114	
Priorities	JP	2001350484		20011115	

Specification:

Movement of the **player character** is the most important element for the progress of the game. Accordingly, in order to display the player character to be easily understandable for the player, it is necessary to **move** the position of the **view point** in accordance with movement of the player character. A conventional video game that **moves** the position of the **view point** in accordance with movement of the player character, moves the position of the view point to maintain a fixed interval between the position of the... ...character is so far from the view point that the size of the player character to be displayed is reduced, with the result that the **player character** is barely seen. Unexamined Japanese Patent Publication Nos. 11-4963 and 11-7543 disclose techniques that first and second displayed objects exist in a virtual space and a **view point** of a **virtual camera** is **moved** or an angle of view thereof is changed based on the positional relationship between the first and second displayed objects. A video game apparatus according to a first aspect of the present invention is a video game apparatus, which moves a **character** in a virtual three-dimensional space and performs perspective transformation on the character from a view point of a virtual camera onto a virtual screen... ...transformation on the character in the virtual three-dimensional space from the view point of the virtual camera onto the virtual screen. When the view **point** mover **moves** the position of the **view point**, the character is subjected to perspective transformation from the **moved view point** onto the virtual screen to generate an image to be displayed on the display screen. The video game apparatuses according to the first aspect perform perspective transformation **without moving** the **view point** of the virtual camera if the distance between the position of the character and the position of the **view point** is the critical far distance or less and/or the critical near distance or greater. Since

the distance between the character and the **view point** is changed by **moving** the position of the character, the size of the character, which is subjected to perspective transformation and is displayed on the display screen, is changed... ...the character and the position of the view point is the critical far distance or less and/or the critical near distance or greater, the **view point** does not have to be **moved**, with the result that the amount of processing can be reduced. A video game apparatus according to a second aspect of the present invention is a video game apparatus, which moves a **character** in a virtual three-dimensional space and performs perspective transformation on the **character** from a **view point** of a **virtual camera** onto a virtual screen. This video game apparatus includes a distance calculator that calculates a distance between a position in the virtual three-dimensional space of the **character** and a position of the **view point** of the **virtual camera**. The apparatus further includes a far distance determining section that determines whether the distance calculated by the distance calculator is longer than a **predetermined** critical... ...of a virtual camera. The program further includes determining whether the calculated distance is longer than a predetermined critical far distance. The program further includes **moving** the position of the **view point** closer to the **character** when it is determined that the distance is longer than the critical far distance. The program further includes performing perspective transformation on the **character** in the virtual three-dimensional space from the **view point** of the **virtual camera** onto a virtual screen. Another video game apparatus according to the third aspect of the present invention is a video game apparatus having a memory... ...of a virtual camera. The program further includes determining whether the calculated distance is shorter than a predetermined critical near distance. The program further includes **moving** the position of the **view point** away from the **character** when it is determined that the calculated distance is shorter than the critical near distance. The program further includes performing perspective transformation on the **character** in the virtual three-dimensional space from the **view point** of the **virtual camera** onto a virtual screen. A video game apparatus according to a fourth aspect of the present invention is a video game apparatus having a memory... ...onto a virtual screen. A character display method in a three-dimensional video game according to a fifth aspect of the present invention moves a **character** in a virtual three-dimensional space and performs perspective transformation on the character from a view point of a virtual camera onto a virtual screen... ...character display method includes calculating a distance between a position of the character in the virtual three-dimensional space and a position of the view **point** of the virtual **camera**. The metbod further includes determining whether the calculated distance is shorter than a predetermined critical near distance. The method further includes moving the position of the **view** point away from the **character** when it is determined that the calculated distance is shorter than the critical near distance. A character display method in a three-dimensional video game according to a sixth aspect of the present invention moves a **character** in a virtual three-dimensional space and performs perspective transformation on the **character** from a **view point** of a **virtual camera** onto a virtual screen to display on a display screen. This **character** display method includes calculating a distance between a position of the **character** in the virtual three-dimensional space and a position of the **view point** of the **virtual camera**. The method further includes determining whether the calculated distance is longer than a predetermined critical far distance. The method further includes decreasing a range of...aforementioned embodiment can be used as a value of the distance D between the position of the view point 403 and the position of the **player** character 300. Such methods become effect particularly in using the **player character** whose shape and size change abruptly. In the aforementioned embodiment, the **view point** 403 of the **virtual camera moves** in accordance with the movement of the **player character** 300. In contrast to this, though the position of the **view point** 403 is fixed, the width of the field of view 405 (distance from the view point 403 to the virtual screen 402) may be changed. Even if the width of the field of view is changed, it is possible to obtain substantially the same effect as the case that the **view point** 403 is **moved** as in the above-explained embodiment. FIG. 11 is a flowchart showing a main processing according to this modification. Processing in steps S201 to S203... ...300 registered in the table when searching for the position of the view point 403 where no obstruction is present between the position of the **player character** 300 and the position of the new **view point** 403 in step S122. In the aforementioned embodiment, the position of the **view point** 403 of the **virtual camera** 401 is **moved** only when the distance D between the position of the **player character** 300 and the position of the **view point** 403 is less than the first distance or exceeds the second distance. This is because the size of the player character 300 in the image...

Claims:
1. A video game apparatus, which moves a **character** in a virtual three-dimensional space and performs perspective transformation on the character from a view point of a virtual camera onto a virtual screen... ...camera; a far distance determining section that determines whether the distance calculated by said distance calculator is longer than a predetermined critical far distance; a **view point** mover that **moves** the position of the **view point** closer to the character when said far distance determining section determines that the calculated distance is longer than the critical far distance; and a perspective transformation system that performs perspective transformation on the **character** in the virtual three-dimensional space from the **view point** of said **virtual camera** onto the virtual screen.
2. The video game apparatus according to claim 1, further comprising a near distance determining section that determines whether the distance calculated by said distance calculator is shorter than a predetermined critical near distance which is shorter than the critical far distance, wherein said **view point** mover **moves** the position of the **view point** away from the character when said near distance determining section determines that the calculated distance is shorter than the critical near distance.
3. The video... ...movement determining section determines that the character has not moved beyond the predetermined range.
4. The video game apparatus according to claim 1, wherein said **view** point mover moves the position of the view point at a velocity that is greater than a moving velocity of the character.
5. The video game apparatus according to claim 1, wherein said view point mover changes the moving velocity of the position of the **view point** in accordance with the **moving** velocity of the **character**.
6. The video game apparatus according to claim 1, wherein said **view point** mover **moves** the position of the **view point** while maintaining a range of a field of view of the **virtual camera** constant.
7. The video game apparatus according to claim 1, wherein an arbitrary number of reference points are assigned to the **character**, and said distance calculator obtains a distance between the position of the view point and the position of each reference point and calculates an average... ...according to claim 1, wherein the character is a player character that moves in the virtual three-dimensional space according to an instruction from a **player**.
10. A video game apparatus, which moves a character in a virtual three-dimensional space and performs perspective transformation on the character from a view... ...the character.
12. The video game apparatus according to claim 10, wherein said view point mover changes the moving velocity of the position of the **view point** in accordance with the **moving** velocity of the **character**.
13. The video game apparatus according to claim 10, wherein said **view point** mover **moves** the position of the **view point** while maintaining a range of the field of view of the **virtual camera** constant.
14. The video game apparatus according to claim 10, wherein an arbitrary number of reference points are assigned to the **character**, and said distance calculator obtains a distance between the position of the view point and the position of each reference point and calculates an average... ...an image as a result of processing executed by said processor, said program stored in said memory and executed by said processor comprising: moving a **character** in a virtual three-dimensional space; calculating a distance between a position of the **character** in the virtual three-dimensional space and a position of a **view point** of a **virtual camera**; determining whether the calculated distance is longer than a predetermined critical far distance; **moving** the position of the **view point** closer to the **character** when it is determined that the calculated distance is longer than the critical far distance; and performing perspective transformation on the **character** in the virtual three-dimensional space from the **view point** of the **virtual camera** onto a virtual screen.

16/3K/5 (Item 5 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Exercise apparatus with computer game

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  (Applicant designated States: all)

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  Grafinger Strasse 2; 81671 Munchen; (DE)

	Country	Number	Kind	Date	
Patent	EP	1308192	A1	20030507	(Basic)
Application	EP	2002023066		20021016	
Priorities	JP	2001321952		20011019	

Specification:
scenery image in which the straight running road stretches in the middle and buildings stand along the opposite sides of the running road. The trainer **character** 101 is displayed at the front side of the running road. In this embodiment, a **viewpoint** of the **virtual camer**a is set at the eyes of the roll-playing character 102. The **viewpoint** of the **virtual camer**a may be set slightly behind the head or the waist of the roll-playing **character** 102 so that both the roll-playing **character** 102 and the trainer **character** 101 can be displayed on the screen. The **viewpoint** of the **virtual camer**a is controllably **moved** along the running road at a speed corresponding to the speed information obtained by the speed calculating device 402 based on the rotation signal from the rotation sensor 19 and the position of this **viewpoint** is relatively **moved** in accordance with the position information obtained by the position calculating device 403, i.e. the scenery image is relatively moved in a direction opposite...

Video game apparatus, method and recording medium storing program for controlling movement of simulated camera in video game

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	Country	Number	Kind	Date	
Patent	EP	1279425	A2	20030129	(Basic)
	EP	1279425	A3	20030326	
Application	EP	2002016211		20020718	
Priorities	JP	2001220312		20010719	

Specification:

an image of the play area in the state thus arranged; a position detecting means for detecting from the captured images the position of a **player**'s marked region; a movement detecting means for detecting two-dimensional movement of the position of the marked region thus detected; and a **viewpoint** changing means for **moving** the **simulated camera viewpoint**, in accordance with the change direction and change amount of the position of the detected marked region. These and other objects, features and advantages of... pointed to cross the screen of monitor 18) is pointed such that it acquires depthwise movement, relative to monitor 18. By doing this, 3-dimensional **player** movement can be detected and it is possible to **move** the **simulated camera viewpoint** inward and outward, in addition to up/down and right/left. (2) In the present embodiment, for the game images, images in a 3-dimensional... ...an image of the play area in the state thus arranged; a position detecting means for detecting from the captured images the position of a **player**'s marked region; a movement detecting means for detecting two-dimensional movement of the position of the marked region thus detected; and a **viewpoint** changing means for moving the **simulated camera viewpoint**, in conjunction with the change direction and change amount of the position of the detected marked region. The present invention takes another form. That is a method for controlling movement of a **simulated camera viewpoint** in a video game that is conducted by creating game images as seen from a **simulated camera viewpoint**, and displaying the images on the display while **moving** the **simulated camera viewpoint** in response to reactions of a **player** responsive to the images displayed on the display, the method comprising the steps of: while periodically capturing images of the play area by means of... ...desired position so that its orientation is such that its field of view is the play area in front of the display screen, detecting a **player**'s marked region from these captured images; further detecting two-dimensional movement of the position of the marked region; and **moving** the **simulated camera viewpoint** in conjunction with the direction of change and amount of change of the position of the detected marked region. According to the aforementioned features, game images, for example 3-dimensional images, from the **simulated camera viewpoint** are created. These images are displayed on the screen of a display and the game proceeds while the **simulated camera viewpoint moves** due to **player** response, for example change in **player** stance, as **player** responds to the images displayed on above-mentioned display. In addition, images of the play area are periodically captured by means of an image capturing... ...its orientation is such that its field of view is the play area in front of the display screen. Then, from these captured images, the **player**'s marked region for example his head, is detected and, additionally, two-dimensional movement of the position of the above-mentioned marked region is detected... ...readily mounted in a desired position relative to the display, and images can be constructively presented from the player's intended viewpoint, as though the **simulated camera viewpoint** is made to follow the **player**'s free movement. In this way, the scope of game play can be broadened and games can be provided which are rich in interest and realism. In the above described invention, the **player**'s marked region can be the **player**'s head. With this configuration, because the movement of the **player**'s head, and thus his eyes, corresponds to the **simulated camera viewpoint**, movement of the **viewpoint** becomes

realistic. As a result, because the **viewpoint** of the **simulated camera** and the movement of the **player**'s head (that is, his eye position) can be matched, a more realistic **viewpoint** movement can be achieved. Furthermore, in the above invention, the operational contents from a controller capable of external control can be to be reflected in... ...separated by a specified distance and arranged so that their directions intersect, and 3-dimensional movement of the player's marked region is detected from **player** images obtained by the first and second image capture means. With this configuration, because 3-dimensional movement of the **player** can be detected, it becomes possible to **move** the **simulated camera viewpoint** in the inward-outward direction in addition to the up/down and transverse directions, and the effect is a more realistic performance, especially in cases where the game images are 3-dimensional. With the aforementioned feature, because **player**'s 3-dimensional movement can be detected, depthwise movement of the **simulated camera viewpoint** in addition to up/down and transverse movement (in other words, 3-dimensional movement) is possible.

Claims:
periodically captures an image of the play area in the state arranged; position detecting means for detecting from the captured images a position of a **player**'s marked region; movement detecting means for detecting two-dimensional movement of said position of the marked region detected by said position detecting means; and **viewpoint** changing means for **moving** the simulated camera **viewpoint**, in accordance with the change direction and change amount of the position of the detected marked region.
2. A video game apparatus according to claim... ...such a manner that it can be mounted on a desired position with respect to the display.
9. A method for controlling movement of a **simulated camera viewpoint** in a video game that is conducted by creating game images as seen from a **simulated camera viewpoint**, and displaying the images on said display while **moving** the **simulated camera viewpoint** in response to reactions of a **player** responsive to the images displayed on the display, said method comprising the steps of: while periodically capturing images of the play area by means of... ...desired position so that its orientation is such that its field of view is a play area in front of the display screen, detecting a **player**'s marked region from these captured images; detecting two-dimensional movement of the position of the marked region; and **moving** said **simulated camera viewpoint** in accordance with the direction of change and amount of change of the position of the detected marked region.
10. The method according to claim 9, wherein the **player**'s marked region is the player's head.
11. The method according to claim 9 or 10, wherein operational contents given by a controller capable... ...first and second image capture means separated by a specified distance and arranged so that their directions intersect so that 3-dimensional movement of the **player**'s marked region is detected from **player** images obtained by the first and second image capture means.
13. A recording medium storing a program for controlling movement of a **simulated camera viewpoint** in a video game that is conducted by creating game images as seen from a **simulated camera viewpoint**, and displaying the images on said display while **moving** the **simulated camera viewpoint** in response to reactions of a **player** responsive to the images displayed on the display, said program comprising the steps of: while periodically capturing images of the play area by means of... ...desired position so that its orientation is such that its field of view is a play area in front of the display screen, detecting a **player**'s marked region from these captured images; detecting two-dimensional movement of the position of the marked region; and **moving** said **simulated camera viewpoint** in accordance with the direction of change and amount of change of the position of the detected marked region.

16/3K/8 (Item 8 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Match-style 3D video game device and controller therefor

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	Country	Number	Kind	Date	
Patent	EP	1206950	A2	20020522	(Basic)
	EP	1206950	A3	20030108	
Application	EP	2001126584		20011115	
Priorities	JP	2000350252		20001116	

Specification:
whether or not punches have been thrown. Furthermore, musical games are known in which the imaginary movement of a virtual instrument being held by the **player** is detected by an acceleration sensor. The **viewpoint** changing technology in driving games carries out smooth image changes via **shifting** among preset **viewpoints** , and does not have the **virtual camera**'s **viewpoint** track the **player**'s free movement. Moreover, boxing video game devices entail the problem that they require a complex and elaborate processing system for the detection of the movement of the **player**'s arms using the bird's-eye camera, and in particular, this technology is not easy to apply to games in which images must be ...stored in the form of a reference table (LUT). The position calculation unit 35 transmits the height position and the right/left position of the **player**'s head within the empty space to the game controller 100 as **virtual camera viewpoint** information, and also transmits them to the draw controller 110. Therefore, the **viewpoint** of the **virtual camera** is **shifted** in accordance with the position of the **player**'s head, i.e., so as to track the amount and direction of the change in the position of the **player's head**. Returning to Fig. 3, the game controller 100 (i) transmits to the draw controller 110 instructions to have the opponent character displayed on...left while shaking, as shown in Fig. 18B. Similarly, when a rising punch is received from the opponent character, as shown in Fig. 19A, the **viewpoint moves** upward while shaking, as shown in Fig. 19B, creating the sensation via the shaking screen image that a punch was landed. Furthermore, the game controller 100 sets multiple locations on the opponent **character**'s body, for example, the chin and body, as hitting areas, and the parts of the opponent **character**'s body that, from the **virtual camera**'s **viewpoint**, overlap with (are covered by) the opponent **character**'s hands (as a practical matter, this may include the **character**'s gloves, as well as the region within a prescribed radius of the center of each glove), as defensive regions. During the time that a...means that controls the progress of the game based on operation signals from the controller, display control means that creates three-dimensional images from the **viewpoint** of a **virtual camera** and displays them on the screen of the monitor, head detection means that detects the position of the head of a **player** positioned within the play space in front of the monitor screen in at least the right and left directions in the space surrounding such head, and **viewpoint** change means that moves the **viewpoint** of the **virtual camera** in accordance with

the direction and amount of change in the detected head position. According to the aforementioned aspect of the present invention, because the position of the head of the **player** playing at a position facing the monitor is detected and the **viewpoint** of the **virtual camera** used in the game is moved based on the results of this detection, a more realistic feel can be provided to the **player**. Moreover, if the operation signals from the controller are controlled with regard to the connecting or missing of a punch, for example, in accordance with the **viewpoint** of the **virtual camera**, a more complex and enjoyable game can be provided. In the match-style 3D video game device, the head detection means preferably detects the height...

Claims:
means that controls the progress of the game based on operation signals from the controller; display control means that creates three-dimensional images from the **viewpoint** of a **virtual camera** and displays them on the screen of said monitor; head detection means that detects the position of the head of a **player** positioned in the play space in front of said monitor screen in at least the right and left directions within the space surrounding such head; and **viewpoint** change means that **moves** the **viewpoint** of saidvirtual camera in accordance with the direction and amount of change in the detected head position.

16/3K/10 (Item 10 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Video game machine, screen display method for video game, and recording medium containing screen display program

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  (Applicant designated States: all)

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Legal Representative:

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	Country	Number	Kind	Date	
Patent	EP	933105	A2	19990804	(Basic)
	EP	933105	A3	20010103	
Application	EP	99101855		19990128	
Priorities	JP	9816203		19980128	

Specification:
of video game played using the game systems, a game space is a virtual world in which there are streets, forest, etc., and a game **character** is moved in the game space by operating a controller. In this type of video game, by using a **virtual camera** (hereinafter referred to as a "**viewpoint**") disposed at a predetermined position with respect to the game **character**, an image including the

character is displayed on a monitor. In addition, a game in which a **viewpoint** can be **shifted** to a plurality of predetermined positions with respect to the character by a player operating a **viewpoint-shift** button provided on a controller is known. The conventional video games of the above-described types have the function of simply shifting the viewpoint with...

16/3K/11 (Item 11 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Shooting game apparatus, method of performing shooting game, and computer-readable recording medium storing shooting game program

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Legal Representative:

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	Country	Number	Kind	Date	
Patent	EP	879624	A2	19981125	(Basic)
	EP	879624	A3	20001108	
Application	EP	98109481		19980525	
Priorities	JP	97134056		19970523	

Specification:
in which the player's spaceship 10 moves forward. Specifically, the CPU 23 controls the signal processor 21 to effect various calculations to cause the **player**'s spaceship moving means to move the **player**'s spaceship 10 on the projection display screen 3, the rear **viewpoint** position control means to calculate the camera **moving** position, i.e., calculate a **virtual camera** position Vc and a camera position C to be reached, the shooting object orientation control means to calculate a rotational angle of the player's...3 in the direction (to the right in FIG. 4) in which the analog joystick 11 has been moved, in step S2. While moving the **player**'s spaceship 10 in step S2, the control system 7 **moves** the camera position C at the rear **viewpoint** in steps S3, S4. Specifically, the control system 7 calculates a reference **virtual camera** position Vc in step S3, and calculates a camera position C to be achieved in step S4. At this time, the rotation ratio coefficient (kcr...

16/3K/12 (Item 12 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

Apparatus for and method of displaying pseudo-three-dimensional image

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	Country	Number	Kind	Date	
Patent	EP	859338	A2	19980819	(Basic)
	EP	859338	A3	20001227	
	EP	859338	B1	20040915	
	EP	859338	B1	20040915	
Application	EP	98102110		19980206	
Priorities	JP	9748572		19970218	

Specification:
relatively freely in a given field, such as martial-arts games, sports games, etc., the viewpoint is fixed at a distance position from which the **character** as it moves can be observed or at a position from which the **character** as it moves can be **followed**, as if viewed from a television camera **viewpoint**. In the conventional **pseudo**-three-dimensional **image displaying apparatus**, the **viewpoint** from and the direction in which a **moving** object such as a **character** is viewed are established depending on the present position and direction of the moving object. This image viewing principle poses no problem with respect to...

16/3K/13 (Item 13 from file: 349)
DIALOG(R)File 349: PCT FULLTEXT

VIRTUAL ENVIRONMENT VIEWPOINT CONTROL

Patent Applicant/ Patent Assignee:

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- **PHILIPS AB**

Inventor(s):

- **RUTGERS Job**

	Country	Number	Kind	Date
Patent	WO	9935597	A2	**19990715**
Application	WO	99IB6		19990107
Priorities	GB	98397		19980109

English Abstract:
A multi-user interactive virtual environment system wherein each user is provided with data to generate a respective image of the virtual environment and **characters** therein, including an assigned **character** (100) particular to that individual user, from a respective **virtual camera** (110) **viewpoint** (A, B, C) determined at least partially by the user-directed motion of their assigned **character**. Each **character** has an interaction zone of predetermined size and shape maintained about its current virtual environment location. When the respective interaction zones of two or more user-assigned **characters** (100, 130) overlap, their respective **virtual cameras** (110) are controlled to **move** from first- to third-person (A-C) **viewpoints** for as long as the overlap remains. In a refinement (Fig. 17), at least one further interaction zone at a given location within the virtual...

19/3K/1 (Item 1 from file: 348)
DIALOG(R)File 348: EUROPEAN PATENTS

GUN-SHAPED CONTROLLER

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	Country	Number	Kind	Date	
Patent	EP	1002559	A1	20000524	(Basic)
	EP	1002559	B1	20051207	
	EP	1002559	B8	20060426	
	WO	1999058214		19991118	
Application	EP	99921158		19990513	
	WO	99JP2490		19990513	
Priorities	JP	98130862		19980513	
	JP	98286513		19981008	
	JP	9985007		19990326	

Specification:

to move the character a prescribed distance after an arrow is displayed on the screen for a prescribed period of time. Explained below is the **relationship** between the main character's viewpoint at such time and the movement of the **character**. In Fig. 33, reference numeral 700 is the viewing point of the main **character** 720. This viewing point 700 is for example the enemy **character** 710. As the **viewpoint** viewed from the eyes of the main **character** 720 (in this case, "subjective **viewpoint**"), the **virtual camera** 721 reads images of its periphery, including the enemy **character**, as image data. Supposing that the main **character** 720a is at a certain point, the main **character** 720a is viewing the viewing point 700. As a state filmed by the virtual camera 721a, displayed on the monitor 31 is an image 800a...